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THE BUSINESS ADMINISTRATION OF THE INDIVIDUAL FARM

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THE business administration of the farm demands the same careful study of business principles which the conduct of other business demands. Farmers often forget that the problem of successful crop production represents only a part, and that perhaps not even the most important part, of a successful farm business. In an article of this length but a few of the business problems which confront the farmer can be considered, but among the points at which business management is likely to be neglected may be mentioned the following:

1. Failure to properly adjust the equipment for best results. Agriculture demands the co-operation of land and its fixtures, labor, and working capital. Production is limited by the minimum amount of the one which may happen to be relatively deficient. The intelligent adjustment of the relationship between the three, therefore, becomes a delicate financial problem.

No fixed rule can be laid down as to the proportion demanded. That will vary with locality, the type of farming involved, and other factors, but a few figures from the census report of 1900 throw some light upon the problem. These figures show that for each one thousand dollars invested in farm land in the United States the following amounts were invested in other ways: Buildings, \$271.33; implements and machinery, \$58.20; live-stock, \$234.57; total \$564.10. In the Northeastern section, embracing New England, New York, New Jersey,

Pennsylvania and Delaware, where agriculture is more intensive, the proportionate amount invested in these ways is much larger, amounting to \$962.68. This shows that under present conditions the farmers of the country have, for each one thousand dollars invested in land, from six hundred to a thousand dollars additional invested in equipment used in connection therewith.

In gathering statistics for a farm management exhibit at St. Louis, replies were received from twenty-three farms which may be properly classed as mixed farms, and from fourteen which may be considered as stock and dairy farms, the largest source of income being from live-stock. These figures showed that for each \$1000 invested in land and improvements other than buildings, there were invested in other ways the following amounts:

	Mixed Farms	Stock and Dairy Farms
Buildings, including dwelling	\$484.18	\$296.01
Live-stock, other than teams	169.41	254.31
Teams and tools	128.45	81.24
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	\$781.77	\$631.56
Operating expenses	\$217.44	\$132.80

These replies were from successful, representative farmers, and show that in successful mixed farming, for each \$1000 invested in land there is demanded at least \$750, for buildings and equipment, or that for each \$1000 invested in land and buildings, about

\$200 is needed for the movable equipment. The operating expenses of the year amount to about \$140 for each \$1000 invested. On the stock and dairy farms the relative amount invested in equipment is less, but the actual amount is greater, since the average investment for the stock and dairy farms reported is much larger.

The "land-poor" farmer has failed to solve this problem of adjustment, he has too great a proportion of his investment in the form of fixed capital. Yet, beyond certain limits the equipment cannot be reduced in proportion to the fixed capital involved.

yield returns as a business investment. At the opposite extreme, the poor man, hampered for capital or the greedy one, ever reaching out for an adjoining farm, may lose heavily, year by year, from the use of buildings which do not give his animals proper conditions, which do not properly house his implements, or which add to the cost of work by their inconvenience.

3. Too much or too little invested in farm machinery. To purchase labor-saving machinery is always a temptation. The fact that the labor-cost of harvesting an acre of potatoes



DEPRECIATION COLLECTS A HEAVY TAX ON THIS FARM

The small farmer must have a team, a plow and a mower, even though he may have comparatively little work to be done with them. For him the proper adjustment may be in the direction of more land.

2. Too expensive or too poor farm buildings. Every dollar needlessly invested in buildings becomes a burden upon the business from that time forth. The wealthy man from the city is prone to make this mistake. He may burden his farm with a top-heavy investment which no business could stand, then wonder why it does not pay. He may very properly do this from the standpoint of a summer home but he should not then expect it to

with a digger or an acre of corn with a corn-harvester is less than that of doing it by hand may obscure the fact that to purchase the machine under the conditions prevailing may increase, rather than lessen the cost of the crop. Certain fixed charges must be borne in the ownership of a machine. These include interest on the investment and depreciation in value due to use and to improvements in manufacture or decrease in the manufacturer's price. The items of repairs, storage and risk are often of importance. These fixed charges must be apportioned to the number of acres of units of work done. If the number of units is small, the additions may bring the cost far above

that of hand-labor. Yet the man who supplies enough units of work, and utilizes the machine to the best advantage easily leads in the competition. Herein lies one of the important advantages of specialized farming, as against diversified or mixed farming. The man who directs his energies toward the production of a well-chosen line of specialties can afford to provide the equipment which will handle these lines in the best way. If he attempts to produce many lines, to equally equip himself for all of them, may

first, however, be assured that the product of this labor will be greater than its cost. Many a man employs labor which costs more than it produces. The farmer can seldom foresee so definite an answer to this primary question as may the manufacturer. More elements of uncertainty enter into his problem. Seasons and conditions differ. The product of one man's labor this year may vary widely from the product of the same man's labor last year. He must base his figures on general averages and



LACK OF HORSES AND LABOR SOMETIMES ADDS TO THE COST OF PRODUCTION

demand a greater investment than he can provide or than the business will warrant.

4. Too much or too little labor. Good business management demands that the equipment be utilized to its full capacity. Profit comes primarily from excess of production over cost of labor. This excess cannot be great for any one laborer. The farmer who is content with the profit from the labor of one man in addition to his own, when his equipment is sufficient to utilize the labor of five men, is missing a business opportunity which he cannot afford to neglect. He must

the results of experience. He must then depend upon the exceptionally good returns from one season or crop to offset the unusually poor ones from some other source.

The employment of more labor than the business or the equipment will warrant is even more serious than the employment of too little. Excessive labor charges may easily run higher than interest and depreciation charges on excessive capital.

In this connection must be considered the labor problem in general, and the adjustment of the work to utilize as nearly as possible a uniform supply.

The difficulty experienced by farmers in securing satisfactory farm labor opens up one of the economic and sociological questions of the time into which it would be unwise to enter here. Let it suffice to say that good management demands that the farmer shall so plan his business that he may give steady employment throughout the year to most of his men. It further demands, what is not so easy to fulfill, that he shall manage his business so successfully that he is enabled to pay wages which will insure to his employees a manner of life and a degree of comfort equal to that which

labor of similar grade may secure in other callings. The laborer may not easily understand that a smaller wage will do this in the country than in the city, and herein lies one of the difficulties of the farm-labor problem.

Space will permit only a bare mention of another important problem in farm management, which is that of choosing carefully the type of farming to be followed, and adjusting the equipment to the type chosen. Connected with this problem appear some of the more important advantages of special, as against mixed farming.

THE CITY MAN ON THE FARM

By George T. Powell

President of the Agricultural Experts Association

INTEREST in country life is pervading the domain of the city resident until there is now a movement toward the land that promises significant changes in social conditions. For many years industrial development has drawn population to the city, and living conditions have become so congested, and life so strenuous and uncomfortable that many are turning their thought toward the country where a purer atmosphere may be had, and greater freedom from the unceasing, grinding toil and killing competition experienced in every line of city work.

When city men contemplate living in the country, their points of view are variable. Some paint the prospect in high colors, thinking that all that is necessary in living on a farm is to give Nature a fair chance, when she will abundantly supply all of the necessities of life. Others imagine that they can manage land successfully even without experience, and that they can make it pay on a small invested capital from the start. For many such in the city who have so limited knowledge and so inadequate a conception of the requirements for successful management of land, it would be better to "Bear the ills we have than fly to those we know not of," for to such,

disappointment must surely come. There are, however, others who are drawn to the country from the love of it, and the opportunity it affords for the application of intelligent thought and study, for the love of trees, animals, fields, etc. They are interested in the soil, not only for its possibilities of production, but for the history of the ages it represents in its evolution. To this class, the impression of the shell or of the leaf in the rock is of equal interest with the ability of the soil, not only for its possibilities of production, but for the history of the ages it represents in its evolution. To this class, the impression of the shell or of the leaf in the rock is of equal interest with the ability of the soil under right management to yield three hundred bushels of potatoes or forty bushels of wheat from an acre.

The city man, especially if he is possessed of wealth, in the purchase of land and in its management, too generally has to meet with many unsatisfactory and disappointing experiences. The land he selects is frequently bought upon a speculative basis with the value run up far beyond its real worth, and profits to be derived from land upon evaluation of city lots is a difficult problem to work out.



THE REMODELED HOUSE

In the general management of farms or country places by city men there is too often a lack of the careful business methods and requirements so essential in their city work. The administration of several hundred acres of land upon which buildings are being remodelled or constructed, landscape work done, tillage carried on, crops produced, the breeding and care of live stock with a high grade of dairy work undertaken, and gardens and orchards planted, requires more varied knowledge than the running of a railroad or a factory. Men are found in these positions with neither training nor adequate knowledge for such work.

In an advisory capacity in the examination of land and policies of management for city men, we have met some surprising revelations in the character of the superintendents or managers who are handling and expending large sums of money for owners of country places. In one instance, judgment was desired on a pair of carriage horses to be purchased. On examination a defective horse was discovered to have been put

into the pair with a good one. The price asked was \$800. They were rejected, but a few days later a coachman from the same vicinity on an adjoining place bought the pair and turned them in to his proprietor for \$2200. The poor horse was laid off in two weeks with plausible excuses and reasons. On investigation it was found that the coachman was carrying on a business of dealing in horses, and the losses met with were at the expense of the owner of the country place.

In another instance, in the purchase of bulbs for a greenhouse, the gardener paid \$5.00 a hundred and charged the same to the owner of the place at \$10.00. On the same place we found the fruit trees in the glass houses in a condition of general decline, and practically ruined through the ignorance of the men who were in charge.

This class of men make more out of the rake-offs and the commissions they take on purchases than from the salaries paid them. So rapidly has the purchase of land for country places developed that a class of men with some business ability combined with

a good degree of shrewdness are offering their services to purchasers on a moderate salary for the purpose of securing the position of manager, knowing the opportunity that is open to them for the handling of large sums of money in lines of work of which their proprietors have limited knowledge and hence are not in a position to question their expenditures. Often only after several years of irresponsible, wasteful use of money, with no return for it, does the owner of a country place realize that he has sunk so much of his fortune in it that he can no longer carry the burden, and he sells out at a heavy and sorrowful sacrifice.

There is, however, another and more encouraging side to the present country life development. There are managers and gardeners to be met who are not only thoroughly capable, intelligent and honest men, but who are in their positions from love of the work in which they are engaged. They not only have a regard for the right expenditure of money, but take pride in producing the best possible results in every branch of their work.

There is growing a clearer discernment on the part of purchasers as to what is wanted in the management of a country place, and the future will bring a large demand for trained and educated men for farm managers.

The growth of cities, and particularly New York city, is so great that business interests are steadily encroaching upon the residential districts, and homes are forced to give way to the demands of trade and traffic. Before the New York Central and Pennsylvania Railroads can complete their present gigantic tunnel improvements in New York city, the most complete and extensive known to the world, costing more than \$100,000,000, the increase of the city population will have been so large as to tax even the greatly improved and enlarged facilities. Through the most far-reaching plans for rapid transit by the most powerful electrical motors ever introduced in the railroad world, capable of a speed of over one hundred miles an hour, large numbers of city resi-

dents will rapidly adjust themselves to living in the country. Not only are farms being bought in many remote sections for summer homes, but a large territory about many cities is being bought up for permanent living. The city man going to his business and returning daily, while his family may attend to shopping and social functions with but little more time required and less inconvenience than at present. The effect of the working of these economic forces is to produce a healthful check upon the universal tendency of country population to concentrate in our already congested cities.

There is an increasing demand for young men who are capable of handling money from the standpoint of investment in land. City business men are beginning to realize that it is from the soil that the real wealth of the nation is produced, which, in 1905, for farm products reached the colossal value of \$6,415,000,000, produced by 35 per cent. of our population. During the past five years the farms of our country have increased in value 33 per cent., which is equal to \$6,133,000,000. The statement is made by the Secretary of Agriculture that if the present values of farm products are maintained through the balance of the present decade, the farming element will have produced in ten years an amount of wealth equal to one half of the national wealth produced in three centuries. These astounding values are attracting the interest of the conservative city business man, who is awakening to the fact that there is more safety in investment in land with its smaller but more certain profits under good management, than in many over-capitalized and inflated securities issued upon a basis of ever varying values and possible shrinkage from many and uncertain influences. The future securities of most permanent value in our country will be those that are based upon the more moderate earnings of agricultural land.

The old methods of farming have been adhered to to an extent that consumption in some directions has overtaken production, and many arti-

cles of food, as poultry, eggs, milk, fruit and meats, are beyond the ability of large numbers of consumers with small incomes to purchase, so costly have these become.

The first question the city buyer of a farm now asks is, where can a competent manager be found? The old joke of milk and champagne offered to friends, produced at the same cost, no longer appeals, and while the city man is willing and desires to spend

duce it in sufficient abundance to make it a feature of commercial interest on his farm.

There are, among others in cities, women who are interested in buying farms, and who frequently prefer to give their own personal direction to the management. They enjoy the invigoration of the outdoor life and working out the plans for the management of their acres. They are intelligent readers of the best literature,



SEED CORN FOR NEIGHBORING FARMERS

money on the beautifying of his place, even that must be done in a more judicious and responsible way. The city man who contemplates buying country property now makes a study, so far as his time will allow, of farm management, and he wants upon his place a man who can handle the work with economy and efficiency. He desires his dairy cows to be kept under good sanitary conditions, the food produced for them from the farm rather than purchased. He wants the orchards of fruit trees to be given modern care and culture that he may not only enjoy the luxury of good fruit, but pro-

and the first thing they do is to supply their libraries with good books, agricultural papers and magazines. They organize poultry and garden work, and often include in their plans a dairy. They generally want an intelligent man who can do the practical work on the farm, and who can carry out such plans as are given to him to follow. Among these are women who are making comfortable incomes from the land they have purchased. Near the writer's home is one of the city women farmers from Chicago who purchased but a few months ago a farm of one hundred acres. She has

had the buildings repaired, roads and walks improved, fruit trees planted, some cheap but serviceable poultry buildings provided, has put in some blooded fowls and Berkshire pigs, and in one short season has transformed a neglected rundown farm into one with many attractive features. She planted a field of corn with well-bred seed, and was considered by most of her easy-going farmer neighbors as a kind of freak, who would not last long in pursuing such methods as she was introducing on her farm. She raised the biggest crop of corn in the county, yielding one hundred bushels to the acre, and the neighboring farmers have since been glad to obtain seed corn from her for their next year's planting. While farmers were purchasing stale melons from a country

fruit store, this woman produced an abundance of the finest from her garden.

While there is some tendency on the part of city capitalists toward the taking of large tracts of cheap farm land and having them worked under competent managers, it is more desirable for the country to have a small farm, where the personal interest and direction of the owners may be given with their different methods and new ideas brought into the community. Both the farmers and the city incomers will be benefitted by the intermingling. Each will learn from the other lessons of value, which in time will result in a general uplift in the social interest of the country, and bring back the old-time dignity and influence that attached to the ownership of land.

FARMING FOR THE CITY MAN

By C. C. Hulsart, Matawan, N. J.

HAVING lived for half a century and been a close observer for half that period and so located that I could study city people from actual contact with them, having them on all sides of me and conversing with them daily. I have found that altogether too many think that all they have to do is to get a small farm, move on it, and Providence does the rest. That of itself is a fatal error. I know of two families at present that are near me, who bought small farms early last spring, moved here and began operations. Both are sick of it and trying to sell. Why? Because they knew nothing of the business they were about to attempt, and the farm produced nothing but weeds. The receipts from either one will not pay the taxes. I offer these as typical illustrations of what I habitually see. These two families are comparatively poor people, have spent the savings of a lifetime and will in all probability be compelled to sell and go back to the city, and the dream of a lifetime to be buried in the grove of adversity. In view of these facts what shall the

city man do who is looking toward a small farm for a home in the country? He should acquaint himself with whatever kind of farming he proposes to follow. I would suggest that he rent at first, then if the adventure does not prove as successful as anticipated he can give up without so much loss. Another point in favor of renting is that it requires less capital in the outset. The man who knows nothing about farming must first learn the business before he can hope to succeed. He must not forget that he is trying to compete with men who have made the occupation a lifelong study, men who have been ground in the mill of experience. With these thoughts in mind the prospective country home seeker will realize there is something more to farming than obtaining a nice house and a few or more acres nicely located.

If I, with my present knowledge of farm operations, were in the city man's place and was desirous of making farming pay, I would first locate myself handy to one or more good markets. I would hire a first class up-to-date farmer, lay my plans before him

and accept his criticisms. I would give him full charge, go to work under him, and try to learn the business. The uninitiated must remember that in order to succeed one must be master of his own business. He must understand how to use all tools and machinery, how to feed his animals and crops for best results; he should know how plants grow, and how they feed; he should have a knowledge of soils and what kind is best adapted to the kind of crop he wishes to grow. All this and more go to make up successful farming. Fertilization and how best to apply and maintain it for the needs of crops is an important factor. Plowing and preparing soil for crops; planting the seed and transplanting young and tender plants requires a knowledge not usually possessed by the city man; cultivation and conservation of soil moisture are also essentials to success. Harvesting and preparing the crop for market should be studied to meet the demands of the market supplied. Too many men, even those who have followed farming for years, lose sight of the fact that produce must be graded and properly packed.

Now having laid before the reader some of the essentials necessary to success I would say to those of our city friends who wish to engage in farming as a business and are willing to learn, and become masters of it, that there is no calling to-day more independent, more healthy or more remunerative for capital and time expended. The several kinds of farming appeal to different people according to their several tastes. Some fancy poultry, others stock or general farming, while still others prefer truck or market garden crops. These should be selected to best suit one's taste or inclination.

In discussing the several kinds of farming I will touch on those with which I am best acquainted. Poultry I know nothing about, neither am I qualified to talk on stock. General

farming, grain, hay, grass, potatoes, and etc., would in my judgment be too large an undertaking for the uninitiated. It requires larger acreages, more stock to operate it, more machinery, and consequently a larger outlay in cash, even though one rents the farm.

Small fruits, truck and market garden crops are more likely to appeal to the average city person than any of the other kinds of farming mentioned. From 25 years of experience, I would enumerate few of the crops I have found very profitable in most seasons. Strawberries, where one has the proper soil, is a paying crop. Red raspberries is another. These crops are quite easily grown, have few enemies, and but little fungus disease. The planting lasts with good care and fertilization from eight to ten years and yields from six to eight thousand pints of fruits annually after the second season and will net the grower from two to four hundred dollars per acre if located within reach of a good market.

In conclusion allow me to say to all those desirous of leaving the cities and beginning life anew in the country, by all means do it if you have savings enough to tide you over sufficiently long to learn how to make your undertaking self sustaining. But don't, I beg of you, overlook the admonitions offered in the early part of this article, or disastrous failure is sure to follow, unless you have ample means at your disposal. My tender sympathy goes out to the children who are shut up in close tenements and see nothing but brick and stone a greater part of their life, when they should be out in the country building up vigorous constitutions and laying a foundation that can never be attained in any of our large cities. The child becomes a student of actual things rather than those artificial. Bring the children to the country and turn them out in God's pure sunlight and let them thrive. It will be the best crop you can possibly produce.

**BEE-KEEPING,
THE POETRY OF AGRICULTURE**

By A. L. Boyden, Medina, O.

BEE-KEEPING is often referred to by authors as the poetical side of agriculture, and the hum of the honey-bee has inspired bards of every clime and every age from the Pharaohs until now. Scientists also have been lured to it, from Aristotle down to Grassi. A veritable host of writers, too, have attempted to elucidate the mysteries of bee-keeping, and a recent author enumerates the titles of not less than 2500 bee-books, and yet admits the list to be incomplete, besides leaving periodical literature untouched.

Bee-keeping is a scientific business, strictly speaking, and the array of scientific men of modern times who have contributed to build it up is quite imposing: Swammerdam, Maredi, Reaumur, Latreille, Bonner, Huber, Langstroth, Dzierzon, Siebold, Leuckart, Schonfeld, Girdowyn, Cheshire, Cowan, Grassi, Clerici, and others of lesser note, so that it is far from being bookish or pedantic. To-day, in America at least, bee-keeping has ceased to be an empirical pursuit, and the periodicals devoted to apiculture teem with scientific facts and deductions in a way positively mystifying to the uninitiated reader, though quite well understood by most of our bee-keepers. Most apiarists, however, are unaware of this peculiarity of their pursuit, and treat it as a matter of course. This gives foundation for the claim that bee-keeping as conducted in North America to-day is the most thoroughly scientific of all the pursuits which go to make up the general science of agriculture. The condition is very largely due, if not entirely so, to the labors of the late Rev. L. L. Langstroth, of Oxford, Ohio, born at Philadelphia on Christmas day, 1810. In 1851 he invented the first practical movable-comb hive, which at once placed American bee-keeping on a far higher plane than its European rival, a lead which it steadily maintains. In other forms of agri-

culture, as was too often the case, our American agriculture was simply a reflex of the European; but in the case of apiculture, this is entirely reversed.

In the matter of books and periodicals also we equally well maintain the lead, so that we are under no necessity to borrow or copy. Europeans are inclined to scoff at our claims some times, and their authors are loath to admit the Langstroth supremacy. For example, it has been claimed for Dzierzon that he invented the movable comb frames, when, as a matter of fact, he decidedly opposed their introduction into Germany, and for some years was a vigorous opponent, cutting out his combs with the aid of long knives and tongs.

In queen-breeding, too, we are far and away in advance; and it goes without saying, that this is a "really and truly" scientific pursuit, demanding from its devotees intimate knowledge of the biology of the bees and the nicest kind of manipulation and calculation, scientific from start to finish.

In the practical details of bee-keeping we undoubtedly excel; and bee-keeping with us is done in no amateur fashion. The late Captain Hetherington, of Cherry Valley, New York, owned and operated for a number of years, and to the day of his death, 3000 hives of bees, so that a moderate estimate of the number of bees he personally owned in mid-summer is 150,000,000. But Harbison, the great California bee-keeper, owned at one time 6000 colonies of bees, and there are several others who have owned or now own as many as 3000 hives. One bee-keeper at Delanson, New York, has 700 colonies in his own yard, which he manages with signal success. This has hitherto been thought impossible, and 300 to 400 is thought to be the limit in one location. Bee-keeping is not confined to any one section of the United States

from Maine in the east, with its clover and fireweed (willow herd), to California in the west with its sages, alfalfa and beans (lima), carpet grass, and manzanita, and from Minnesota on the north, with its clover and raspberry, to Florida in the south, with palmetto and mangrove. Ontario also stands very high in bee-keeping in all-round qualities of its product; and Cuba and Jamaica are competitors worthy of acknowledgment. It is, therefore, impossible to fix any limits

or peon has neither the capital nor education necessary to compete with our educated American bee-keepers. In England, the leading bee-keepers seem to be clergymen, and it is very much the same in France and Germany. In the United States, professional men are fond of bee-keeping, but now that farmer's sons are being well educated too, the supremacy will probably pass to them, although as a rule it does not receive the attention it deserves from agricultural schools



A MODEL APIARY

to successful bee-keeping. Nor is the available territory all taken up by any means. There is good territory still unoccupied in the South and West particularly; also in the Canadian dominion, where new available territory is constantly coming into view. Mexico offers a fine field practically untouched.

The requisites for success in bee culture are the same as in any other agricultural pursuit, though perhaps not so much physical strength is required. A love for the business, a good education, a good location, and some capital are required. Given these, success ought to follow. In Europe great efforts have been made by the chief governments to teach and interest the peasantry in bee-keeping largely without avail, as the peasant

and colleges thought it would be an easy matter to do it.

The best way to learn bee-keeping is from some skilled bee-keeper, though the bulk of our apiarists are self-taught, nearly altogether. Where one can afford the time, a summer's training in a well-equipped apiary is almost invaluable. Failing in this the man with a good agricultural training can pick up the threads of apicultural knowledge by a careful perusal of our leading bee-books. There are three of these which are fine volumes of nearly 500 pages each, jammed full of information: Root's *A B C of Bee Culture*, Cook's *Manual*, and Langstroth's *Hive and Honey-bee* (revised). Then we have several excellent magazines which are very creditable to say the least. The book



A NEW YORK APIARY

knowledge can be greatly improved by visits to conventions and conferences with brother bee-keepers. For residents in the Eastern States there is a fine opportunity of this kind annually held at Jenkintown, near Philadelphia, when the leading lights of beedom may be seen at the particular work in which they excel. This presents a fine opportunity for a beginner, and costs nothing but the railway fare to and fro. There is nothing quite like it anywhere else; but the larger States have their annual conventions, and occasionally local societies have meetings at which one generally obtains some new and practical ideas. There is also a national convention, which takes place this year at San Antonio, Texas. One does not glean as a rule very much from the papers read; but the bee-keepers present are generally mines of information, and there is generally an interchange of ideas which is stimulating to a great degree. To rub up against the man who produces honey by the ton, and who counts his hives by the hundreds, acts as a strong stimulant to a weak-kneed beginner groping for light.

To the young farmer, bee-keeping is an excellent hobby, as good as kodaking, and more profitable. For the

long winter nights the books on bees are fine reading, together with the bee-magazines, some of them well illustrated. Moreover, the literature of the honey-bee is particularly rich, hence the interest need not flag. The classic poetry—in English—of the bee comprises Virgil, Vaniere, and Evans.

The bee most prominently cultivated and which, in parliamentary parlance, "has the floor," is the Italian. Strictly speaking, it is not the Italian bee, as it is a local variety which has its habitat on the slopes of the Alps verging into Italy. It was originally introduced from Bellinzona, Switzerland. It has been greatly improved by the skillful bee-keepers of this country, until Americo-Italian queens are actually exported to Italy as breeders. In this case, coals are certainly carried to Newcastle. American bee-keepers have experimented with other varieties—Carniolian, Caucasian, Banat, Krainer, Cyprian, Syrian, Holy Land, and several others; but, as already stated the Italians are the favorites. Stingless bees are domesticated in some parts of South America and a shipment of two colonies by W. K. Morrison, a well-known Ohio bee-keeper, has aroused considerable interest in this country. Stingless bees



OF 750 COLONIES

comprise many species of three genera—*Melipona*, *Tetrasoma*, and *Trigona*, scattered over a territory of 8,000,000 square miles, or from the United States to Argentina. Over a great part of this territory our honey-bee can not exist unless very carefully protected from its enemies; yet the stingless bees are in myriads everywhere. This is to be wondered at, for our bees were very probably natives of the Soudan originally, and cover the whole of Africa from North to South. Various species of *Apis* also inhabit India, so the American bee-keeper has "something new" under the sun.

At the present time bee-keepers are very hopeful. The recently enacted pure-food law will certainly tend to improve the demand for honey by giving consumers greater confidence in the bottled product. Honey has greatly suffered from this evil, and from newspapers and others interested in advertising compounds resembling honey. Compared with other products of the farm such as butter, honey is too cheap from the producer's point of view. Some of the States, notably Ohio, Illinois, and New York,

have pure-food laws which are being enforced, and which tend still further to give stiffness to the market. A general enforcement of strict pure-food laws is earnestly desired by all American and European bee-keepers, as nothing else is required to stimulate their business greatly.

Given a much better price for its chief product, honey (and possibly beeswax), it is perfectly safe to state that American bee-keeping would grow at a very rapid rate, seeing that we have a suitable foundation on which to build. The desire for this perfectly natural food, almost pre-digested, is growing rapidly; but under the conditions suggested it would be irresistible, and might for a time be impossible to supply; but the amount of honey the United States can produce is enormous.

At present, thanks to the enterprise, knowledge, and skill of the American bee-keepers, it is possible for the poorer classes to place on their tables a food equal to anything the millionaire can secure. This is no small boast; but it is a truism to state it so, and with that statement may we leave the subject for the present?

DOGS ON THE FARM, FROM A COMMERCIAL STANDPOINT

By B. R. and O. A. Knapp, Cortland, N. Y.

FOR years past, thorough-bred horses, cattle, sheep, and poultry, have been demanding more and more attention from the majority of farmers, the whole country over. Science in the breeding of these noble animals has done much to place them on the prosperous footing that they have obtained. The farmer of to-day is reaping the benefit of this advancement.

The horse is able to fill all and ever more than the expectations first fostered for them. The cow has proven

exhibition specimens; there has been a great factor in the improvement of each breed.

But first the American Kennel Club must have a mentioning, as it is here that registry and books are kept which furnish the pure-bred dogs with records.

Any dog that has a registered sire and dam is eligible to a name and number; upon payment of one dollar with the proper application blank filled out, a certificate is issued. Up to the present time there have been over 104,000 dogs registered in America, and through the exactness with which their books have been kept, a pedigree can be obtained that will show the true breeding for almost any number of generations. The American Kennel Club also keeps records of all the winnings made at the various shows; and no dog is allowed an honor that does not rightfully belong to him. Another feature is the exposure of any and all dishonesty that unscrupulous breeders might indulge in.

The bench shows that are held in many of our largest cities have proven a great success both as an instructor and educator and as a promoter toward the standard of excellency. New York annually holds two great shows at Madison Square Garden, namely the Ladies' Kennel Club show that comes in November, and the Great Westminster Kennel Club show each February. The latter show brings out over 1,400 entries. Boston ranks next with another mammoth show each year. Chicago, Pittsburg, Baltimore, and other cities also hold annual exhibitions, that are given liberal patronage.

At all shows each acknowledged breed is given a place, while under the breeds all are subdivided into classes, namely, Puppie, Novice, Limit, Open, and Winners. In this way fairness is obtained. A champion dog is one that has ten points to his credit in the Winners' class.



that she is able to turn more profit than two or even three of her kind did years ago, and so with other branches of animal husbandry. All of this has been brought about by the farmers, with the assistance afforded them by our agriculture colleges.

But when we come to the dog (when bred in his purity) the farmer has, as a rule, had no hand in his improvement nor is he reaping any of the profit or benefit therefrom. This branch has been handled only by kennel-owners; and they have taken every advantage of it. From the slight knowledge given out as to the financial gains, competition has never been strong, but as great rivalry exists among themselves to produce the

If the farmer, can be prevailed upon to replace his common (and in most cases mongrel) dog with a pure bred one it will open up a new field, that will add a new source of income. He should first decide on the breed he prefers. In this there should be no mistake as each breed has a class of admirers that they appeal to. After the breed is selected, inquiries will have to be made to kennels for foundation stock. One way is to purchase a young female that can be grown to maturity at a slight expense. As breeding time approaches it is wise to book her to some good stud that has backing and reputation behind him.

The farmer has all the advantage imaginable over the kennels in producing the finest of stock. The hunting breeds and Collies never can do as well elsewhere as on the farm. It might be advisable to leave the toy breeds alone as they are too tender.

With the collie (of which the writers are most familiar) it is found that they have all the requirements that make them one of the greatest breeds from a commercial standpoint. This is due to the stock driving qualities, watchfulness, and companionship, that they possess. Some years ago the city fad took up the collie as a pet and each year the demand has increased until to-day the kennels that breed them report that over 90% are sold to city trade alone; and yet it is not possible there to allow them to show their true value. At the New York

show over 200 specimens were brought out last year.

Another noticeable fact is that the hunter, when buying a new dog, is willing to pay more when he has a guarantee that the dog is farm raised; and with all the other breeds larger than the Toys it is equally as important that they should be reared out in the open, with plenty of space to exercise. And of all the other advantages the farmer is the man that can and will bring out the best. It has been proven that the English bairn which is a shy breeder, only does her best when she can obtain all of the advantages which the farm brings.

The writers had a few unpleasant experiences when starting in the fancy; their idea was to buy a female (collie) that was bred and from her to produce the foundation stock, and this was not so bad if they had been willing to pay a fair price; but on the contrary they expected something for nothing and the result was not very satisfactory. Individually this dam was poor but her puppies were even worse. She was soon moved out and a new one took her place that was backed by the best of blood.

Possibly this article may appeal to some that have a liking for one of our most noble domestic animals; but if they go farther and take up their breeding with the same interest that is given that of horses or cattle, they will be surprised by the results.



AGRICULTURE OF OTHER NATIONS—III

CHINA

By Yau Hang Tong, '07



"THE POOR BOYS AT WORK." TRANSPORTATION OF WHEAT

ISUPPOSE that our readers know that China is an agricultural empire, great and ancient, situated on the East of Asia; bounded on the east by sea, on the north by the desert, and on the west as well as on the south by other lands. She has a huge area of 4,277,170 square miles and a vast population of 433,553,030. Right in the heart of the country, from East to West, there is a river, known as the Yang-tze River, which forms a belt more than 10,000 miles long. The northern Provinces are irrigated by the Yellow River, which runs a course of more than 9,000 miles. In the South, the Pearl River furnishes water for the use of two great Provinces, Kwang-tung and Kwang-si; while in the extreme North, the Amur River forms the natural dividing line of Siberia and Manchuria. Besides these, the deposit of the Great Canal adds more fertility to the soil of the Eastern Plain. Favored by these and many small rivers, China has been justified in claiming fame as one of the greatest and oldest, if not the greatest and oldest, agricultural countries in the world. Her land can be roughly divided into four main divisions: the mountainous, the hilly, the Plain and

the Desert. All the North and Northwestern Provinces of our country are more or less mountainous. There the forests find their beautiful home and the animal breeders smile cheerfully for their greens. The hilly portion is in the East, Southeast and South; while the plain occupies the whole central part of the Celestial Empire. In these two portions, the prosperous peasants people all the districts, owning and tilling the fields their fathers owned and tilled before them, where the Chinese grow the best food in the world, rice; the best drink, tea; and the best clothing, silk. Having a fertile soil well irrigated, drained by nature, which produces every kind of food, and a climate which favors every kind of fruit, our people, have for tens of centuries, regarded agriculture, which feeds us, as the chief productive industry, and above all other occupations.

Such is the natural situation of China, an entire agricultural country whose history of agriculture is intimately bound with that of the nation. To make a review of the past cannot but prove interesting to lead us to inquire into the progress of the future. In the prehistoric age, the in-

habitants of China with no exception to the other people, lived in caves and subsisted entirely on the flesh and blood of animals. The life was miserable and people suffered from many kinds of disease. Thanks to Heaven, who blessed us with an Emperor to whose diligent researches our agricultural and medicinal knowledge is due. After his advent, Emperor Shun Nung, the Divine Agriculturist, studied the characteristics of plants with

soil. And, at the same time he improved and expanded the methods of his predecessor, making the art of agriculture more extensive. To his persevering efforts, the utilization of tillable lands and the regular seasonally sowing of grains, was, largely, due. The great success, which attended the results of his experiments, induced all people of the land to follow and practice them diligently. Hou Chack's reputation as an agricultural teacher



SPECIMENS SHOWING THE PRUNING OF ORNAMENTAL TREES

their relation to the climate, ascertained the fertility and suitability of the soil, and introduced to his citizens the methods of cultivation and preparation of food. After Shun Nung, came another great agriculturist, Hou Chack, who, we are told, while yet a child, took unusual interest in farming. His amusements chiefly consisted of fibre and grain planting. As he grew older, his love for agriculture became more intense. At his maturity, this natural inclination led him to make minute investigations into the productiveness and adaptability of the

was now firmly established; and a further recognition of his ability and merit was followed by an Imperial appointment as Minister of Agriculture.

Afterward, the development of the agriculture became more and more intense. It has become a traditional custom (you may call it Common Law) that every Spring, the Emperor plows a few furrows and sows several handfuls of grains on a piece of land designated for himself. With the product of that field, he sacrifices to his own ancestors. To some of our read-

ers, this superficial method of cultivation may seem ridiculous; but it is evident that the ruler of the land is deeply interested in agriculture and undertakes to encourage his people to that industrial pursuit by his personal example.

Owing to her ever-increasing population, which now averages 266 persons per square mile, the art of farming has become more intensive rather than extensive. Land holding is free to those possessing it, by paying a nominal tax. The minimum size of farms is five acres, though it varies considerably in different parts of the country.

The old Chinese land system was very unique. It was parallel to the feudal system of the Middle Ages. The land was divided into sections and townships. Each township consisted of four sections of 900 Chinese acres each, or 36 sections, each of one square mile extent. Each section was subdivided into small holdings of 100 acres. There were in each section nine pieces of land which were award-

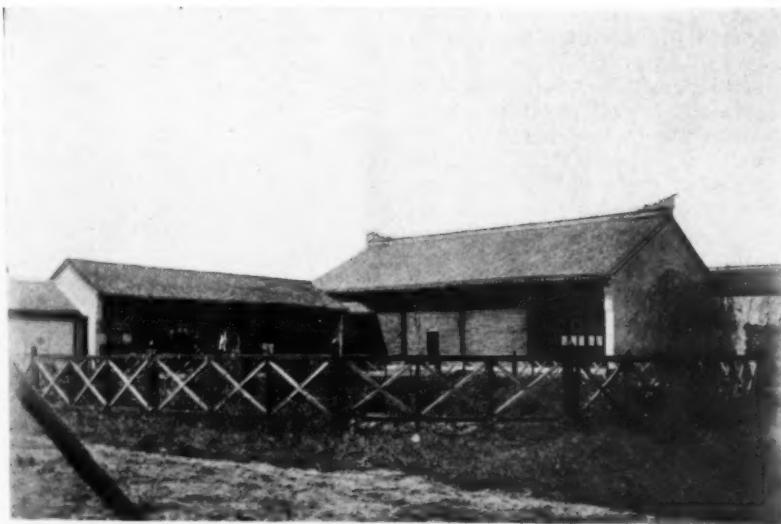


SHUN NUNG
"The Divine Agriculturist"

ed separately to the people who held them as fiefs; that is, in lieu of taxation had to work unitedly for the Government, which generally owned those lands in the centre, taking possession particularly of the central por-



"A CABBAGE FIELD"
The leaves are hung in the sun to dry



A COLLEGE OF AGRICULTURE, ONE OF THE MANY IN CHINA

tion to equalize and economize labor. This system had been in vogue for many centuries when two centuries before the Christian Era it was totally abolished by the Edict of an Absolute Monarch (the Chen Dynasty.) After this, land has been taken by individuals without any system and condition.

As regards production, China can produce all varieties of food and clothing. Indeed, if I am not exaggerating, what you have in America, we have; but what we can produce in China, you cannot produce in America. Rice, a grain well adapted in the Tropical country, is the chief national food, which feeds more than two-thirds of the population of the world. Rice is cultivated more or less in thirteen provinces, at least. The virtues of tea, both as a drink and a medicine, have been extolled from its earliest use as a beverage in China, and since 1669, has been the chief export of our land. Its cultivation is confined to the region lying between 24° and 35° of North latitude. The climate between these parallels varies to a considerable extent, being much warmer in the Southeast than in the Northern Provinces. Our silk, a textile fibre, peculiarly suited to our hospitable soil,

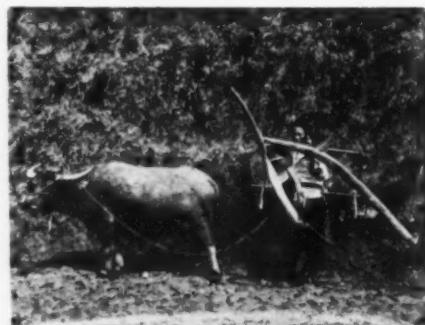
that most lovely and exquisite cloth which clothes the royal, the wealthy, and the fair sex of all lands, ranks second in importance with rice.

The Chinese girls and women may be said to be born with a needle between thumb and fingers. Their skill and ease in embroideries have become proverbial; they command the respect and admiration of those who have an occasion to see them at work. Indeed, the Chinese could weave and spin with dexterity long before the Europeans could conceive the slightest idea of the art. In order to encourage and promote sericulture, among the gentler sex, the Empress weaves and spins with zeal during the season of silk. Though China has been in the past, as she is to-day, a cotton-growing country, still, owing to the lack of improvements and encouragements, she has to award the palm to America when a comparison is made between the two nations. There are ten States in the Union, which yield more or less cotton; while in the Central Kingdom, twelve Provinces produce a similar article for the comfort of her people. Besides these, wheat, barley and millet grow luxuriantly in the North; sugar cane thrives in the South; while fibers, such as flax,

hemp, jute and ramie also do well in the South and the central part of the Empire.

To sum up, then, the facts which show that China has been the most ancient and the greatest industrial Empire, it is reasonable that she ought to maintain her standard as such to-day, but by reasons of her treading on the old paths and laying scientific researches aside, she is distanced by her American sister in the race for industrial progress. Happily, however, she is resuming the competition with redoubled energy. In order to restore her lost agricultural prestige, aside from sending her students abroad to acquire the best methods of the West, she is granting land and giving protection to her industrial class. With the introduction of approved western methods and choice western implements, and with, on one hand, greater inducements from the

Government, and, on the other hand, still more activities from her people, it is not unreasonable to console ourselves with the hope that may the time be not far distant when the oldest Empire will regain her place as the greatest agricultural nation.



THE POOR MAN WITH THE POOR IMPLEMENT

MAKING GOOD ON THE FARM—I

By L. H. Moulton, '01 Sp.

EVER since the *Cornell Countryman* was started, I have been wishing that it might contain a series of articles, written by the common, everyday students telling of their successes and failures in their attempts at practical agriculture. This would bring me news of my class mates and furnish me encouragement in my attempts, as well as making interesting reading for the *Countryman*. I feel, however, that I am hardly qualified to begin such a series, but for fear of giving the idea a damper on the very start, I will try, hoping that it may be the fore-runner of many interesting articles.

In the first place, I am going to make out a little outline of what, to me, would make up an interesting article. Let us suppose that every reader of the *Cornell Countryman* has come to an Alumni reunion and that each one in his turn is questioned about himself since he left Cornell. What would some of these questions be? First, some of his classmates

would ask the general question, "What has he been doing?" This will necessitate a short autobiography of his life since leaving college. Then someone may ask about some experiments tried or the results from certain methods with different crops. By this time some freshman becomes interested in him and begins to ask him questions: Of what practical value has your work at Cornell been to you? What is the opening in your particular line of business for Cornell students? Judging from your experience, what would you advise in regard to our work here? This will lead to a great amount of paternal advice, which ex-students are so fond of delivering to anyone they can get to listen.

This is only a suggestion for those who come after me, and perhaps a little explanation of what I am going to write.

I left Cornell five years ago. I bought a farm and went into partnership with my father, in the retail milk business in Cuba, Allegany Co., N. Y.

We own two farms and rent another, the total acreage being about 375 acres of which 50 acres is woodland.

When I commenced delivering milk I only sold about 60 quarts per day. At that time there were four milkmen here; at the present time I am selling from 350 to 400 quarts per day, and there is only one other milkman left and he has only a small route. I bought out one small route, and the rest has come to me as the direct result of my efforts to produce milk of the best quality and to handle it according to sanitary methods.

We keep a herd of from 55 to 60 grade Jersey cows, using a thoroughbred bull, and raising calves to keep up the dairy. This has had a great deal to do with keeping up the route. I have had more or less experience with numbers of cows of all the leading breeds, as we had to buy a great many the first years, and I am thoroughly convinced that there is nothing equal to a good Jersey cow for a milkman, not one of the goat variety, but a good, large machine, capable of turning a large amount of fodder into a pail full of 4% or 4.5% milk. Especially is this true in smaller towns, where more attention is paid to the amount of cream than in cities, where the question of purity is given more attention.

Ever since I commenced farming, I have been trying my best to raise alfalfa. This is out of the alfalfa territory, and no one has ever succeeded in making a success of it, and I have not much to record except failures, but they are all valuable, because of the lessons they teach. The first field I sowed was on a flat, with no surface drainage. During the January thaw the water stood three or four inches deep and then froze. This killed the alfalfa entirely. Another lesson that I have learned is, that unless the ground is very free from weed seed, a nurse crop is very important, as it will check the growth of the weeds until the alfalfa gets a start. Any crop, such as oats and peas, which can be cut early for green feed, is good. At last I succeeded in getting a stand, but the field is so streaked that after cutting two seasons I have plowed it up, and

am going to reseed it next spring. I feel quite certain of a good stand after this.

Another experiment, which I have tried, suggested by the New York State Experiment League, was that of sun flowers planted with corn. I increased the number of tons of fodder raised on a acre about a third, but the extra expense of getting the mixed fodder into a silo was so great that I did not consider it profitable.

I have also been experimenting for the past ten months with a milking machine, and while I am perfectly sure in my own mind as to the results, I am not ready to make them public just yet. In the near future I hope to be able to give the readers of the *Cornell Countryman* the results of this experiment.

It would be very hard to tell all the practical ways in which my work at Cornell has helped me. The school boy just finishing arithmetic will tell you that it is of practical value to him, but ten years later, how much more he will mean by the same statement. It is not just the rules in the old arithmetic, but it is what it formed the foundation for, that made it so valuable. It is just this way with my work at Cornell. It looked practical to me then, but it looks practical in a far different way now. To me, the work done in the dairy building has been of the most direct value. I believe that, for a man who is going to follow the milk business, there is not a thing done in the dairy department that he can afford to miss; and just so in all the other departments. Although one cannot specialize in all of them, the more he can get out of every department the broader man he will be.

Then too, there is another valuable lesson I learned, one which every student of Cornell can hardly help but realize. No student can listen to the instruction he receives there, without a feeling of greater respect for his profession, and the feeling, that because of the place scientific agriculture holds he can command the respect and honor of all his fellow men.

The opening for young men in the retail milk business was never better

than at the present time. There is an increasing demand for first class milk everywhere, and those already having large routes have great difficulty in getting competent help. While the life of milkman must be a strenuous one, it need not necessarily be monotonous or unpleasant; there are many people to see and joke with every morning and so many little incidents, which make good jokes to tell even if they are not funny when they happen. For instance, one night just before midnight during an electric storm, when telephone lines were supposed to be out of business, my 'phone rang several times as though something very urgent "was doing." I tumbled out of bed and rushed to the telephone, only to hear a feminine voice say, "I would like a pint of milk in time for breakfast." The answer might better be imagined than printed, and I think there would be as many

different answers as there are readers, which if printed might show some interesting characteristics of some. At another time I decided to accommodate a customer, who had been worrying for some time about getting sour milk, accordingly, I carried in a four quart pail of skim milk. She was delighted and wanted to know the price, I told her five cents. "Oh!" she said, "I guess I won't take but a pint." And then aside from this there is always the satisfaction of work well done, if it is well done. It is not like taking your milk and turning it in with other milk. Everything that is done to raise the standard of your milk will be noticed sooner or later, and you will surely reap the rewards of honest effort, not only in better satisfied customers, but in the new ones which will surely come your way, if you are producing a better article than some one else.

OUR WINTER BIRDS IN THEIR RELATION TO AGRICUL- TURE-IV—THE REDHEAD- ED WOODPECKER

By Vaughan McCaughey, '08

THE redheaded woodpecker is not, strictly speaking, a winter bird. A large portion of its food consists of beechnuts, and so during "good beechnut years," it remains north throughout the entire winter, but if beechnuts are scarce it migrates south. In fact, the Redhead is a very good example of this general law—"if a bird has an abundance of its favorite food its movements no longer seem to be governed by the calendar."

The Redhead not only shows decided individuality in respect to its migrations, but also as to its diet and feeding habits. A great many interesting observations have been made of this bird's habit of storing nuts; whole handfuls of beechnuts have been taken from a single knothole; and have been found in cracks in gateposts, behind slivers in fences, and in cracks at the end of railway ties.

There is a family of birds known as the Fly-catchers, so called because of their common habit of feeding upon flying insects—flies, bees, butterflies, etc. These birds perch silently in exposed places, and any unwary insect passing near is immediately pursued and snapped up, the bird returning again to its perch. The Redhead has evidently also learned this trick, and his favorite foraging ground is not a tree, as is the case with most of the other woodpeckers, but fence posts, and telephone poles. He is commonly seen making short elliptical sallies into the air for insects, returning to his post with his prey. The insects captured in this way are chiefly beetles, wasps, etc., Redhead being fond of very large beetles, especially the June bugs, which are the adults of the injurious "white grub." Grasshoppers also form an important part of the food and account, in part, for the frequent occurrence of Redheads along roadsides and near fields. He does not destroy many boring grubs, and is not so valuable as the Downy on that score. He seems to prefer the adult beetles.



THE REDHEADED WOODPECKER

Numerous accusations have been made against the Redhead as a fruit thief and many of these are just. It is true that Redheads frequently do considerable damage to fruit. But if these cases be investigated, it will be found that comparatively little damage is done in the open country, where fruit is raised on a large scale, where slight losses are not noticed, and where there is a good supply of wild fruit. On the other hand, the owner of a few trees or perhaps only one, as

is often the case in town, is far more seriously affected by the depredations of the birds. These may be greatly obviated by the planting of wild fruit trees; mulberry, dogwood, and wild cherry, along the streets and roadways.

What has been said of the Sapsucker may also be said of the Redhead, while there may be cases in which their destruction is justifiable, on the whole they are of decided economic importance, and deserve protection.



The Cornell Countryman

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MARCH, 1907

Merry March THE fields are brown.
The sky is gray. The trees are black 'gainst
the low-hung clouds.
Harsh, raw, strong, the winds rule the earth. It is March.

Down through the pasture the sod is wet, so wet that water seeps from below your boots. The last-year grass is dun. The pasture stretches up the hill, a rolling carpet of brown. Over the soaked rail fence that creaks beneath your weight, a field is tumbled into masses of sepia by the plowing of the Fall. The soil seems dead and silent. Not a sign of life is in or on it.

But the air is full of vim and zest. Great masses of gray-black clouds rush over the sky, a scurrying torrent of vapor. Rain, cold and stinging strikes your face. It sweeps and swirls in sheets. It soaks the land and runs down the slopes where it meets the brook and rustles along to the creek that clatters down to the saw-mill dam, and then over banging and roaring.

The woods, a scraggling company, sigh and moan in the gusts. There is the crack of breaking branches and the crash of falling limbs. Once there came the sullen boom from a falling

trunk. Only the fit survive the month of March.

The smell comes up of wet earth and decaying leaves, of rotting trees and of rain. The air is perfumed with the clean sweet smells of a fresh wet countryside.

Take a long breath and be glad you are alive. Be glad that you may be out of doors. Be glad of a land where the winds, and the rain make for strength; where the weather is as bold as the landscape is rough and the people strong. Be glad for March.

Dollars for Thoughts THINKING pays cash dividends. It is head-work that tells in the long run. The man who lets his head ramble after his hands finds his hands bigger than his head. The purse is filled, for many men, in direct proportion to the ability of their brains.

Farm management pays. The simple methods of our farmer ancestors will now seldom return in proportion to the labor expended in other businesses. The farm as a business does not differ in any of its essentials from the factory. Both are manufacturing concerns. To the mechanical details of the factory there is added on the farm a factor involved by the forces of nature. These forces may be a great help or a great hindrance. Because of these the farm is a more complicated machine than the factory, requiring a higher type of intelligence to secure the best results.

Farm management is fun. If the farmer loses the management of his farm and lets the farm manage itself, or worse still, manage him, he is not merely losing money, he is losing the fun. To anyone who has had the

experience of managing the details of a large and successful farm the work appeals not as drudgery and labor but as fun, as sport, pure and simple. It is the fun that come from the management of any large enterprise. It is the pleasure that is found in intelligent labor. It is the joy of accomplishment.

No fair minded person will dispute that with the small scientific knowledge at hand the farmer has achieved enormous results in the growing of crops. Yet neither will that person fail to admit that as a business concern the average farm has been awfully mismanaged. It is upon this side of farm work that emphasis will be laid in the future.

If *The Countryman* devotes more space to farm systems than to individual practices, it is because less is known concerning crop rotation than crop growing and because the management of the land and labor is a greater problem than the proper depth at which to plant potatoes.

To the Sleepy Alumnius

EACH year more and more alumni come back in February to attend the League's meetings and the Agricultural banquet. To them the college extends its heartiest welcome through the banquet and to them the store of learning is again opened through the meetings of the league.

Yet, from the large number of alumni who are, presumably, able to return, the proportion is small of those who do come back at this time. Is it because they don't care, because they lack interest in the college or their work?

Keeping these stay-at-homes tied to

their own firesides, perhaps the greatest factor is the lack of the initiative required to leave the beaten track of their own business and to bring them again for a few days in touch with the college and its work. When a man is in a rut it is hard work for him to clamber out. Then, too, he is a weak man or he wouldn't be in the rut. Many of the alumni are in a rut. Those who aren't shine like stars among the others.

The men who don't come to Cornell in the latter part of February are unfortunate. Every year the meetings of the Experimenters' league and the banquet have given an impetus to the men who came. To get back to Cornell, to sing the old songs, to meet the old professors and the students has been worth more to many than a year living in the rut. To get in touch with the latest ideas on agriculture, to meet those of the old men who are doing things, the men who are making good and who aren't in a rut, has been good for every one who was at the Experimenters' League meetings.

Put down in your little book that you'll come back next year in February.

The League and the Banquet

THE custom of holding the Agricultural banquet at the time of the meetings of the State Experimenters' League and the Short Winter courses has caused a greater importance to be put upon these events and insured to them a greater success.

The practice, inaugurated in 1906, of holding the banquet upon the evening of Feb. 22nd., is continued. It is hoped that this custom, growing into a tradition, will be rendered inviolable by the succeeding years.



THE OLD SWING BRIDGE OVER FALL CREEK

Photo by Baker

GENERAL AGRICULTURAL NEWS

Plans for a jubilee week celebrating the fiftieth anniversary of the opening of the first Agricultural college in the United States, are being formed. As Michigan had the honor of the pioneer agricultural college, the jubilee will be held at Lansing, probably at the meeting of the delegates of the Association of American Colleges and Experiment stations, May 28-31, 1907. President Roosevelt will speak, on the last day and preparations are being made for ten thousand visitors at the college.

* * *

A new forestry school is to be organized at the State College of Pennsylvania, by Prof. B. E. Farnow, formerly director of the New York State College of Forestry at Cornell University. The new forestry department is to be modeled after the one at Cornell—following the same general policy. The school is designed to be a first class undergraduate school of forestry.

J. T. Breazeale, has been appointed Assistant Professor of Experimental Agronomy, at the same institution. He will carry on the experiments in the rotation of fertilizer crops which have been under way there for the past twenty-four years. He will be assisted in the work by Mr. C. L. Coos and F. R. Reid, who are sent by the Bureau of Soils. Mr. C. S. Shaw will be instructor in Agronomy and J. H. Barron assistant in Experimental Agronomy.

* * *

The plans for the distribution of the Armour scholarships were decided upon at a joint meeting of the representatives of the Agricultural college and the managers of the International Stock Show. One scholarship is to be given to the college leading at the exposition in the judging of horses, cattle, sheep and swine, one to the college making the best exhibit of food stuffs, and one to the college making the highest average. The remaining thirteen

will be apportioned according to the winnings of the colleges. Save that no college shall receive more than 40 per cent. of the total number. The awarding of the scholarships will be done by the respective colleges.

* * *

Madras is to have a new Agriculture college located at Coimbaton, where a large farm has been secured as a field laboratory. The institution begins life with an expert agriculturist, a farm superintendent, botanist, and chemist; other members will be added from time to time. Both teaching and research work will be carried on at the institution.

* * *

The first agricultural high school in Maryland at Calvert, in Cecil Co., is proving highly successful. The school is under the supervision of H. D. Sampson, formerly of the Department of Agriculture and the control of the Cecil County School Board.

CAMPUS NOTES

One of the most significant visits ever made to the Cornell College of Agriculture was that of the Board of Trustees of the University of Georgia, and of the Georgia College of Agriculture on February 5 and 6. This body of men came from Georgia solely to inspect our new college.

The State of Georgia has recently appropriated \$100,000 for the promotion of agriculture and has given to the University of Georgia full charge of the schools of the state as well as of the interests of agricultural education. The University has already established eleven district schools for teaching agriculture at a cost of \$850,000. The visit of the men having this work in their keeping is a splendid tribute to the progressive spirit of the Georgia farmer. But the fact that they study the methods of teaching and of agricultural work here, is no less a tribute to the New York State College of Agriculture and the men who have its work in charge.

The members of the visiting committee were as follows:

Chancellor David C. Barrow, of the University of Georgia; George Foster Peabody, Trustee of the same University; Hon. J. J. Conner, Senator Luther Martin, Doctor O. Thrash, Senator L. G. Hardaman; Hon. R. C. Neely, Dudley M. Hughes and Senator A. J. McMullan, Trustees of the Agricultural School of the University of Georgia; Hon. T. G. Hudson, Commissioner of Agriculture; Hon. Thomas J. Shackfellow; Harry Hodgeson, R. C. Beadle; Charles S. Peabody, and Doctor Andrew M. Soule, Dean-elect of the Agricultural School.

* * *

Another "one of the most enjoyable of the year" assemblies was held on Thursday, Feb. 7, and may without doubt be hailed as the best of this college year up to this time. The hostesses were Mesdames Comstock, De Garmo Tailby and Misses Van Rensselaer, and Margaret Cook, and their portion of the evening was fully in keeping with the earlier hours. The program presented to an audience almost filling the Barnes Hall Dome, was opened by the Glee Club and *Alma Mater*. Two more numbers were rendered, exceptionally well, the work of the Club being deserving of great credit and praise. An announcement concerning the new song books was followed by a vocal solo by R. R. Cook, Sp., who preceded Dean Bailey's address. The latter consisting of readings, an informal address, and a recitation of Dean Bailey's new poem "I am That I am" was especially interesting and inspiring. A final selection by the Glee Club completed an enjoyable part of a wholly enjoyable function.

* * *

President and Mrs. Schurman visited the new dairy building on the afternoon of the 6th and were shown the many interesting things to be seen there. President Schurman gave a number of short talks to the classes before leaving.

The N. Y. Produce Review and American Creamery for Jan. 9, 1907, contains a detailed description of the new dairy building, including plans of the floors and several views of the equipment and building. The general arrangement and the system of instruction are praised very highly, and Prof. Pearson is given due credit for the labor and skill that have made the school so complete.

* * *

Prof. Wing has 30 men in different parts of the state testing cows. These have sent in some very good records—several of them above 24 pounds of butter fat for the week.

* * *

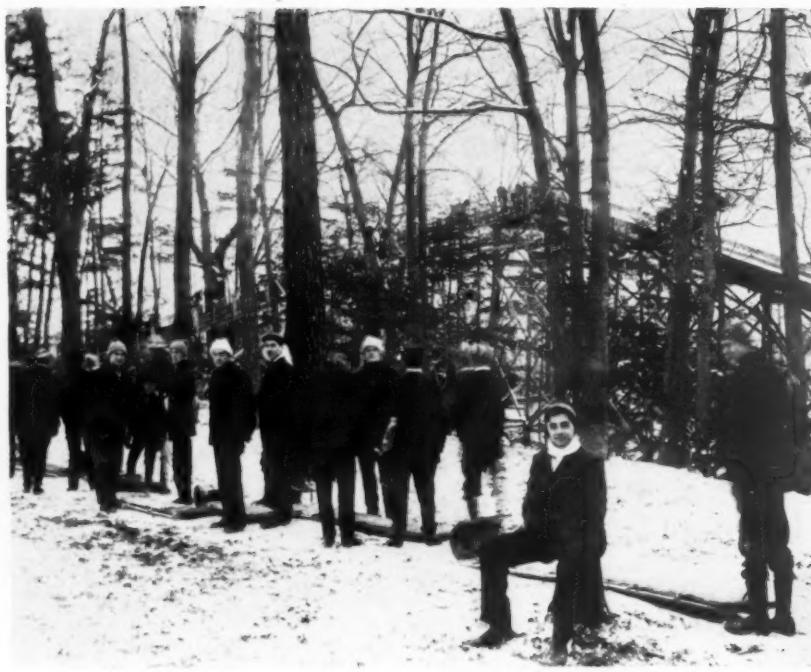
A very witty paper on Prof. Pearson's "Muckrake"—The Dairy Score Card,—was read by Mrs. Edward H. Marshall at the N. Y. State Dairymen's Convention recently. The score card was devised to aid in safe-guarding the milk, to prevent dishonest competition, and to make the consumer more discriminating in buying milk. Mrs. Marshall says, "Just here, like oil on water, comes Prof. Pearson with his "Muckrake," the little dairy score card. Prof. Pearson is no new man at this business, he has been through considerable dross, and out of it he has picked the fine jobs of permanent value, and incidentally he has suggested a pair of new eyes for the dairy-sharp eyes and standard-ize."

* * *

Prof. Ryoji Jwazumi, in charge of Dairying and Animal Husbandry at the Tokio University, stopped here to inspect our new Agricultural College. He is making a tour of the important educational centers of the United States.

* * *

On February 6, Dean Bailey left Ithaca to attend a meeting of the State Grange, returning just in time for the Assembly. This Grange, which he considers as representative of the people—the real power of the nation—is taking up the actual problems of the population, such as the good roads, the pure food, and the education questions.



WAITING AT THE SLIDE

Photo by Baker

The Agricultural Association started the second term with the following new officers, elected at the final meeting of last term: President G. D. Cooper; Vice-president, M. C. Burritt, Secretary, Miss E. Leonard; Treasurer, E. H. Anderson; Librarian, M. A. Travis.

* * *

The New York Tribune Farmer of January 31, contains an exhaustive account of the opening exercises of the Model School house on January 22, together with an illustration of the building. The exercises, which are conceded to be of especial significance in the field of rural education, were in the form of a meeting of prominent educators. These included Ex-President White, Professor Bristol, of the N. Y. State Teachers' Association, Professor De Garmo, of the Pedagogical department, D. S. Kimball, of Sibley College, School Superintendent Boynton and Commissioner Updike; Dean Bailey, Professor Com-

stock, "Uncle John" Spencer, Miss McClosky, Mr. Hunn and others. A thorough inspection of the building was made and a number of addresses completed the informal function.

* * *

Superintendent C. H. Tuck of the Farmer's Reading Course Department, was absent from the University for January 6, 7 and 8, in order to attend the meeting of the State Grange at Binghamton.

* * *

The Agricultural Buildings were visited during the week of January 4, by State Engineer Skene who came to Ithaca on the matter of the widening of the Inlet, but spent some time on the hill among the University buildings.

* * *

Miss Edith M. Patch, of the Maine Experiment Station is pursuing special, advanced work in the Department of Entomology.

On February 23, a public exhibition and demonstration of spraying machines was given at the South Barn by the manufacturers of the machines shown. The demonstration, which was held under the direction of the Horticultural Department, in conjunction with the Experimenter's League, was for the purpose of emphasizing the importance and need of spraying, and of acquainting the students of the College with the different types of spraying machinery. Some ten or fifteen types were in evidence, representing the most up-to-date models and the most well-known manufacturing firms.

* * *

The short course class in Horticulture made an excursion to Geneva on January 25, to inspect the nurseries of Smith Brothers, the farm of Mr. Lewis, and the State Experiment Station. This excursion, which was made by a large party of students, proves that not only do the short course men have many of the same advantages for study as are offered to the Regulars and Specials, but also that many of them make the most of these opportunities.

FORMER STUDENTS

99. B. S. A.—C. H. Yates. "I entered Cornell in January, 1898 joining the class of 1899 and graduating with them as a B. S. A.

In June, 1899 I took charge of a farm in Holderness, N. H., remaining there until August, 1900, when I took a position with the Walker-Gordon Laboratory Co., at Boston. This company produces and handles milk in the most scientific manner consistent with practical business methods and gets a higher price for their product than any other producer. I, therefore, wanted to learn how it was done.

I was planning to have a farm of my own and my thought was that the most profitable market for my crops was through the body of a cow.

If then the product of that cow brought a high price the best results

would be obtained. I am still working on that proposition with the Walker-Gordon Company. New problems of practical importance in dairy matters are constantly arising with this work and to keep in the van these problems must be met promptly. It is more fun (and more work) to lead than to follow and as the Walker-Gordon Company tries to lead, the work is most interesting.

As to details, this company operates two farms located respectively at



C. H. YATES

Charles River, Mass., near Boston and Plainsboro, New Jersey, near New York. The distributing point for each farm being respectively at Boston and New York. Whole milk is distributed, also modified milk.

The whole milk is of guaranteed composition and purity daily. Modified milk is the whole milk altered or modified according to directions given us by physicians in the form of prescriptions. Each prescription being prepared separately by us each day for the child it is intended for.

At each of the distributing stations a milk laboratory is established for the preparation of these prescriptions on physician's orders only. Similar

Walker-Gordon laboratories are also established in fourteen other cities, including London, England. Our only dairy product is milk. Corn is raised for the silos and some hay and alfalfa. Each cow is considered from an economical standpoint as a machine but is treated as a sensitive, responsive animal that knows what she wants for best results.

My short experience at Cornell has been most profitable and I am almost daily referring to my notes taken at the lectures and also am bothering most of the professors of the College of Agriculture with questions all the time.

I hope that some day in the near future I may return to Cornell for further instruction in the College of Agriculture as this college to-day, in my judgment, has no superior.

Whereas, It has pleased an all-wise Providence to most unexpectedly remove from our midst, our beloved and honored fellow student, John M. Blair, be it duly

Resolved, That we, the members of the Agricultural Association, representing the students of the New York State College of Agriculture, accepting, with resignation, the righteous judgment of God, do hereby express our deep and universal sorrow; and that it be

Resolved, That we extend our heartfelt sympathy to the family whose loss we share; and that it be further

Resolved, That we publish these resolutions in the *Cornell Countryman*, and send them to the bereaved family.

AGRICULTURAL ASSOCIATION,
N. Y. State College of Agriculture.
Cornell University.

'81, B. Agr.—J. A. Holmes was in Ithaca a short time ago on his way to St. Louis. He has recently been appointed the head of the fuel testing department of the Geological Survey, with headquarters at St. Louis.

'98, B. S. A.—D. A. Williston is the horticulturist and landscape gardener of Fiske University, at Nashville, Tenn.

'01, Sp.—F. M. Cockburn has resigned his teaching position to assume the superintendency of the Hood Farm at Somerville, Mass.

'02, B. S. A.—Charles William Wenbowe was married in December to Miss Grace May Dean daughter of Mr. and Mrs. Luther Dean, of Rochester, N. Y. Mr. Wenbowe is Secretary of "The Horse World Publishing Co., of Buffalo, N. Y.

'04, B. S. A.—Walter S. Brown resigned his position at Univ. of W's., as instructor in horticulture to take a similar position at the Winona Agricultural Institute at Winona, Ind.

'04, B. S. A.—R. C. Simpson has gone into the nursery business at Monticello, Florida.

'04, Sp.—G. Lynn Barber is the horticulturist of the extensive Solvay Farms at Tully, N. Y.

'05, W.—W. H. Langworthy of West Edmonston, N. Y., was married recently to Miss Edna Laub of East Hamilton, N. Y.

'05, M. S. A.—A. W. Gilbert has been promoted to assistant professor of Agronomy at the University of Maine at Orono.

'06, B. S. A.—Chas. F. Shaw, now of the Bureau of Soils, Wash. D. C., has been granted a leave of absence, and has been appointed instructor in Agronomy. He will teach soils, farm crops and rural engineering.

'06, B. S. A.—John Barron of Mount Morris, N. Y., has been appointed assistant in Agronomy at the Penn. State College, where he will work under Prof. Hunt. Mr. Barron spent a few days at Cornell last month before taking up his work at Penn. State.

'06, B. S. A.—M. W. Evans, of Lc Raysville, Pa., who has been assistant in the soils laboratory here during the past term, has been appointed to the division of Agrostology, Dept. of Agr., Washington, D. C. Mr. Evans began his work on Feb. 1, and expects soon to be sent to Pullman, Washington State, where he will have charge of experiments with forage crops.

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